

Division of Solid and Hazardous Waste  
P.O. Box 414  
Trenton, New Jersey 08625-0414  
Tel. # (609) 984-6900  
Fax. # (609) 633-9839

Mr. Richard Myers, Chairman  
Sussex County Municipal Utilities Authority  
RD#1, Box 900A  
Lafayette, New Jersey 07848

Re: Sussex County MUA Landfill  
Solid Waste Facility Permit - Minor Modification  
Facility No. 1913C

Dear Mr. Myers:

I am enclosing herewith a revised Solid Waste Facility Permit (SWFP) for the construction and operation of Phase 2B and Phase 3 at the above referenced facility. This document shall supercede the existing permit issued on March 15, 1999.

In accordance with the letter from Cerenzio & Panaro, P.C. dated May 1, 2000, this permit has been revised to reflect the inclusion of a geosynthetic clay liner (GCL) as a substitution for recompacted clay for the Phase 2B and Phase 3 (future) construction at the Sussex County MUA Landfill. In terms of environmental performance standards, Cerenzio & Panaro, P.C. has demonstrated to the Department's satisfaction that the selected GCL in a double composite liner system is technically equivalent to, if not better than, twenty-four inches of compacted clay liner in the previously approved single composite within a double liner system. Accordingly, Conditions B.I.1, B.I.2 and B.I.10.i (pages 13, 15 and 21, respectively) have been revised to reflect this material design change. Lastly, as a procedural change, Conditions A.7.c, A.13 and A.20 (pages 5, 8 and 10 respectively) have been amended to incorporate an updated phone number for the NJDEP Environmental Action Hot-Line (1-877-WARNDEP). All other conditions of the permit remain unchanged.

Conditions have been incorporated that must be complied with in order for this Permit to remain valid. The Department will consider amendment or modification of the specific terms of the conditions of the Permit that have been revised if the registrant submits a written request by certified mail within twenty days of receipt of this Permit. Said written request must clearly state

the proposed amendment or modification and the factual basis for the request.

Sincerely,

Thomas Sherman  
Assistant Director  
Office of Permitting  
and Technical Programs

MS/ms

enclosure

File SCMUA80

cc: Julio Galarza, BRRTF, DSHW, NJDEP  
Rai Belonzi, BSWCE, Compliance & Enforcement, NJDEP  
Peter Goodman, SCMUA  
Peter Cerenzio, Cerenzio & Panaro

Division of Solid and Hazardous Waste  
P.O. Box 414  
Trenton, New Jersey 08625-0414  
Tel. # (609) 984-6900  
Fax. # (609) 633-9839

**SOLID WASTE FACILITY PERMIT**

Under the provisions of N.J.S.A. 13:1E-1 et seq. known as the Solid Waste Management Act, this Solid Waste Facility Permit is hereby issued to:

**Sussex County Municipal Utilities Authority**

FACILITY TYPE:	<u>Class 1 Sanitary Landfill</u>
FACILITY NUMBER:	<u>1913C</u>
LOT NO.(S):	<u>33A, 33E, 34, 35, 37, 38A, 38F</u>
BLOCK NO.(S):	<u>14</u>
MUNICIPALITY:	<u>Lafayette Township</u>
COUNTY:	<u>Sussex</u>
EXPIRATION DATE:	<u>March 15, 2004</u>

This Permit is subject to compliance with all conditions specified herein and all regulations promulgated by the Department of Environmental Protection as same may be amended in the future. Any references herein to specific regulations include any future amendments thereto.

This Permit shall not prejudice any claim the state may have to riparian land, nor does it allow the Permittee to fill or alter or allow to be filled or altered in any way, lands that are deemed to be riparian, wetlands, stream encroachment areas or flood plains, or that are within the Coastal Area Facility Review Act (CAFRA) zone or are subject to the Pinelands Protection Act of 1979, nor shall it allow the discharge of pollutants to waters of this state without prior acquisition of the necessary grants, permits or approvals from the Department of Environmental Protection.

Compliance with the terms of this Permit does not relieve the Applicant of the obligation to comply with all applicable state

and federal statutes, rules and other permits. Failure to comply with all of the conditions specified herein may result in revocation of this Permit and/or other regulatory or legal actions which the Department is authorized to institute by law.

This Permit is non-transferable without approval from the Department pursuant to N.J.A.C. 7:26-2.7(e).

November 13, 1987  
Director  
Original Date of  
Issuance

Signed by Thomas Sherman, Assistant

Thomas Sherman  
Assistant Director  
Office of Permitting and  
Technical Programs

March 15, 1999  
Expansion Permit  
Issuance Date

May 25, 2000  
First Revision Date

Solid Waste Facility Permit for Sussex County Municipal Utilities Authority, Lafayette Township, Sussex County, Facility Number 1913C.

This Permit is contingent upon compliance with and implementation of the following:

**A. GENERAL CONDITIONS**

1. Permitted Waste Types

The following solid waste materials, as defined by waste identification (ID) numbers and defined in N.J.A.C. 7:26-2.13(g), may be accepted for disposal at the landfill:

<u>I.D.</u>	<u>Waste</u>
10	Municipal (Household, Commercial and Institutional)
13	Bulky Waste
13C	Construction and Demolition Waste
23	Vegetative Waste except leaves pursuant to N.J.S.A. 13:1E-99.21
25	Animal and Food Processing Waste
27	Dry Industrial Waste
27A	Waste material consisting of asbestos or asbestos containing waste
27I	Waste material consisting of incinerator ash or ash containing waste

2. Prohibited Waste Types

The following waste materials, liquid or solid, as defined by waste identification (ID) numbers and defined in N.J.A.C. 7:26-2.13(g) and (h), may not be accepted for disposal at the landfill:

<u>I.D.</u>	<u>Waste</u>
12	Dry Sewage Sludge
72	Bulk Liquid and Semi-Liquids
73	Septic tank Clean-Out Wastes
74	Liquid Sewage Sludge

Leaves pursuant to N.J.S.A. 13:1E-99.21.

Regulated Medical Waste, Class 1 through 7, as per N.J.A.C. 7:26-3A.5.

Hazardous Waste as defined or otherwise classified in N.J.A.C. 7:26G-5.

Recyclable materials as designated in the Sussex County District Recycling Plan.

3. Recyclables

Recyclable materials designated in the Sussex County District Recycling Plan to be source separated pursuant to N.J.S.A. 13:1E-99.11 and 99.13b(2) shall not be accepted for disposal at the landfill.

Any recyclable materials described above, detected in a load of waste accepted at the facility shall be handled pursuant to the Operations and Maintenance Manual.

4. Haulage Vehicles

Only vehicles properly registered, pursuant to N.J.A.C. 7:26-3, with the Department, unless exempt from the registration requirements pursuant to N.J.A.C. 7:26-3.3, and displaying the appropriate registration number and solid waste decal shall be admitted for the unloading of any solid waste at the facility. The facility shall be operated in accordance with N.J.A.C. 7:26-2.11.

5. Waste Delivery and Haul Routes and Traffic Control

The Permittee shall ensure that all solid waste collection/haulage vehicles that access and egress the facility adhere to the mandatory truck routes specified in the Sussex County Solid Waste Management Plan and described in the Operation and Maintenance Manual for the landfill. The Permittee shall post at the facility and provide photocopies detailing primary truck routes to the users of the facility.

All vehicles hauling waste shall enter the site via Route 94 during normal operations. Access from Old Beaver Run Road shall be permitted only during construction phases and for emergency purposes.

6. On-Site Traffic Control

On-site traffic control measures shall be implemented to provide for orderly vehicle movement on the facility grounds. These measures shall include the appropriate use of lane delineations, signals and signs. All delivery trucks shall queue, as necessary, in areas designated for that purpose. All on-site roadways utilized for vehicle traffic,

excepting the temporary roads on the active areas of the landfill, shall be constructed and maintained to withstand heavy traffic usage.

7. Unauthorized Waste(Revised May 25, 2000)

As detailed in the Operations and Maintenance Manual, a program shall be maintained for detecting and preventing the disposal of regulated hazardous waste and other unauthorized wastes. The program shall include the random inspections of incoming loads, recording any inspections, and training of any facility personnel to recognize regulated hazardous waste. The program shall include the following:

- a. Any truck suspected of hauling hazardous waste shall be stopped and inspected. Any vehicle found to be carrying a hazardous waste material as defined at N.J.A.C. 7:26G-5 shall not be permitted to unload at the facility.
- b. Facility personnel shall conduct continuous visual monitoring of the discharged waste. Any suspected unacceptable waste shall be removed from the processing stream.
- c. Any suspected hazardous waste, regulated medical waste, or liquids found in a load accepted at the facility shall not be returned to the generator. Such material shall be segregated and stored in a secure manner and the discovery of any such wastes at the facility shall immediately be brought to the attention of the NJDEP using the NJDEP Environmental Action Hotline at **1-877-WARNDEP**. The Bureau of Hazardous Waste Compliance and Enforcement shall also be contacted at (609) 584-4250. In addition, the Sussex County Health Department shall be contacted regarding the receipt of any suspected hazardous materials. The Permittee shall secure the name of the collector/hauler suspected of delivering such waste to the facility and related information surrounding the incident, if available, and shall make this information known to the Department's enforcement personnel.

8. Bulky Waste Recycling Facility

The operation of the Bulky Waste Recycling Facility shall be in accordance with the provisions of N.J.A.C. 7:26 et. seq. and the document entitled "Sussex County Municipal Utilities Authority, Updated Operations and Maintenance Manual, dated May 1993". Only Waste Types I.D. 13 (Bulky Waste) and I.D.

13C (Construction and Demolition Waste) shall be processed at the facility with the following exception: During periods of high wind conditions, the Bulky Waste Recycling Facility building may be used for tipping and the temporary storage of solid waste so that blowing litter does not become a nuisance at the facility. Once high wind conditions have ceased within a twenty-four (24) hour period, the solid waste shall be transferred to the landfill working face. A log denoting the date, tonnage and storage time of solid waste each time the building is activated for this purpose shall be maintained at the site.

No solid waste shall be allowed to remain on the tipping floor for a period in excess of 24 hours. The processing capacity of Waste Types I.D. 13 and 13C at the Bulky Waste Recycling Facility shall not exceed the design capacity of 400 tpd.

The SCMUA shall maintain contracts with licensed recycling facilities of with final markets for the disposition of all recovered materials. Copies of these contracts shall be submitted to the Division of Solid and Hazardous Waste within thirty (30) days of the effective date of this permit renewal. In addition, the Division shall be notified by the SCMUA within one (1) month of any new contract of the disposition of recovered material. Such notice shall include the new contract or letter of intent.

The Permittee shall obtain and comply with all conditions of the Air Pollution Control Permit issued from the Air Quality Regulation Program pursuant to N.J.A.C. 7:27-8.2.

Noise control shall be implemented to ensure that sound levels generated by the facility shall not exceed the standards set forth at the New Jersey Noise Control Code N.J.A.C. 7:29.

Routine housekeeping and maintenance procedures shall be implemented within the bulky waste facility interior to prevent the accumulation of dust and debris and to maintain general cleanliness in the working environment. All areas where solid waste has come in contact shall be washed daily. In the event of freezing weather, the areas shall be cleaned by utilizing high pressure steam or as otherwise approved by the Department. All wastewater resulting from the operation, washdown from the tipping floor, and stormwater and/or washdown water from the trailer loading shall be directed through the drainage system to the three (3) on-site 5200 gallon epoxy resin coated underground holding tanks as shown on the referenced engineering plans. The wastewater/washwater contained in the holding tanks shall be

removed and conveyed to the on-site leachate storage tanks for disposal at the SCMUA Upper Wallkill Valley Water Pollution Control Facility in accordance with the approved NJPDES/SIU permit and properly transported in accordance with N.J.A.C. 7:26-3.

9. Hours of Operation

The Complex is open for the disposal of solid waste from 7:00 A.M. to 4:00 P.M. Monday through Saturday. On Saturdays, the hours of the Complex for specific areas shall be extended until 7:00 P.M. for residents' access to the Convenience Disposal Center, Recycling Center, Vegetative Waste Recycling Facility and Bulky Waste Recycling Facility. The Complex shall be closed Sundays and holidays as defined in the facility's Operations and Maintenance Manual.

The Department shall be notified of any changes in the operating hours of the facility. The entrance shall be posted with the aforementioned operating hours of the facility.

10. Vector Control

The sanitary landfill shall be operated in a manner that minimizes the propagation and harborage of insects, rodents and birds. Cover material shall be applied as needed to control vectors. An effective vector control program shall be instituted and maintained throughout the site.

If vectors still present a problem, the Permittee shall implement a program in compliance with the requirements of the New Jersey Pesticide Control Code, N.J.A.C. 7:30, by an applicator of pesticides certified in accordance with N.J.A.C. 7:30.

11. Noise Control

Noise control shall be implemented so that sound levels generated by the facility operation, including vehicles, do not exceed the standards set forth by the New Jersey Noise Control Regulations at N.J.A.C. 7:29-1.2.

The Permittee shall prevent the continued entry to the facility of any vehicle not equipped with proper operating muffler systems or those vehicles which create excessive noise.

12. Odor Control

The operation of the facility shall not cause any air

contaminant, including an air contaminant detectable by the sense of smell, to be present in the outdoor atmosphere in such quantity and duration which is, or tends to be, injurious to human health or welfare, animal or plant life or property, or would unreasonably interfere with the enjoyment of life or property, except in areas over which the owner or operator has exclusive use or occupancy.

Malodorous emissions shall be controlled by the use of daily cover at the landfill. In the event that this is not satisfactory, a suitable deodorant shall be used. Malodorous solid waste shall be covered immediately after unloading with a minimum of six inches of cover material or approved alternative material.

13. Fire Safety(Revised May 25, 2000)

An adequate water supply and/or fire fighting equipment shall be readily available on-site or on call to extinguish any and all fires. In case of a fire, the Permittee shall immediately notify the local police and fire departments having jurisdiction and the NJDEP action line at **1-877-WARNDEP**. The Permittee shall be responsible for initiating and continuing fire-fighting actions until all smoldering, smoking and burning ceases. The Permittee shall seek and obtain fire-fighting assistance if smoldering, smoking or burning persists for longer than 24 hours. The Permittee shall ensure that local volunteer fire companies are thoroughly versed in the emergency plan of action for a fire at a landfill. Specific procedures are outlined in the approved Operations and Maintenance Manual for the facility.

Fire-fighting procedures and emergency procedures shall be posted prominently in the work area and shall include the telephone numbers of local fire, police, ambulance and hospital facilities.

14. Security

The existing perimeter chain link fence shall be maintained at the Sussex County MUA Solid Waste Complex to control access to the landfill.

Access to the site shall be restricted to facility personnel, authorized vehicles and authorized visitors only. Security procedures shall be implemented that provide for an effective means of controlling entry and exit at all times. Guards, attendants, visual monitors, or locked gates shall be utilized at all site entrance and exit roadways.

15. Safety Procedures

A copy of the safety procedures shall be posted prominently in the work area. The Permittee shall follow the Occupational Safety and Health Administration (OSHA) standards in the construction and operation of this facility for the safety of contractors, employees and other persons entering the premises. Appropriate facility staff shall be trained to effectively respond to any equipment malfunction or emergency situation that may arise during facility operation.

In addition, the Permittee shall require in all contracts with private contractors performing work on behalf of the Permittee in construction and operation at the facility that contractors adhere to all OSHA standards for the safety of its employees and other persons entering the premises.

16. Housekeeping

Routine housekeeping and maintenance procedures shall be implemented within the facility interior to prevent the accumulation of dust and debris on the public roads and to maintain general cleanliness in the working environment.

Litter at the landfill shall be controlled through the use of moveable fences of sufficient height or by an equivalent means. The litter fence, buffer zone and facility entrance shall be policed daily, and the litter collected shall be properly disposed of at the working face of the landfill. The public roads providing access to the solid waste facility complex shall be policed daily for litter.

Dust control at the landfill shall be affected by the spraying of water or the spreading of calcium chloride or an equivalent method approved by the Division as needed. Spraying of waste oil is prohibited.

Mud, soil, or other materials shall not be tracked onto any public roads by exiting vehicles. Effective measures shall be implemented to comply with this condition. If these measures prove ineffective in controlling soil tracking, the Permittee shall remove all soil or other materials from the tires of exiting vehicles by means of a high pressure steam (or water) cleaning apparatus combined with a rumble rack.

17. Facility Operator

Any private individual, entity or corporation selected by the Permittee to operate part or all of the facility activities shall be fully registered with the Department to

conduct solid waste business in the State of New Jersey pursuant to the provisions set forth at N.J.A.C. 7:26-16.

18. Facility Personnel Training

All personnel who are directly involved in facility management activities or who operate, service or monitor any facility equipment, machinery or system shall successfully complete an initial program of classroom instruction or on-the-job training which includes instruction in the operations and maintenance of the equipment, machinery and systems which teaches them to perform their duties in a manner that ensures the facility's compliance with the requirements of N.J.A.C. 7:26 and the conditions of all Departmental permits issued to the facility.

The training program shall ensure that appropriate facility personnel are able to effectively respond to any equipment malfunction or emergency situation that may arise. The training program shall provide instruction in the use of safety equipment, procedures for inspecting and repairing facility equipment, machinery and monitoring systems and the procedures to be followed during planned or unplanned shutdown of operations.

The training program shall require constant monitoring of incoming loads and shall include instruction related to identification and proper handling of suspected unauthorized waste types. Instruction in fire training and noise monitoring shall be provided to appropriate personnel.

19. Facility Staffing

The facility shall maintain sufficient staff to ensure proper, orderly and safe operation of all materials handling, processing, monitoring and control, safety, emergency, and security equipment items. Concurrently, the level of staffing shall provide the capability to handle all routine facility maintenance requirements and also to respond to all emergency situations.

A fully trained and qualified foreman or supervisor who is designated and authorized by the Permittee to direct and implement all operational decisions shall be present at the facility during all operating hours.

20. Emergency Actions(Revised May 25, 2000)

In the event of an emergency, all measures outlined in N.J.A.C. 7:26-2A.8(b)42 shall be followed. The Department

shall be notified immediately at **1-877-WARNDEP**.

21. Plans On-Site

One complete set of the approved engineering plans, the engineering reports, the final Operations and Maintenance Manual, the operations records, the environmental and health impact statement and a copy of this Permit shall be kept at the facility and shall be made available for inspection by Department personnel or its designated representatives.

22. As-Built Certification

Upon completion of construction of each phase of the landfill, certification by a New Jersey licensed Professional Engineer with expertise in civil or geotechnical engineering shall be provided as specified in N.J.A.C. 7:26-2A.7(a)20 through 24. The certification shall include a summary of daily quality control reports, all test results and two sets of as-built drawings.

No work performed under this Permit shall be considered complete until such engineer's certification has been submitted to and accepted by this Division. In the event that said certification is not received or is not accepted, the work shall be considered incomplete.

All certifications shall bear the raised seal of the licensed professional engineer, the engineer's signature, and the date of the certification. The certification shall include the following statement: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals under my supervision, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment. I understand that, in addition to criminal penalties, I may be liable for a civil administrative penalty pursuant to N.J.A.C. 7:26-5 and that submitting false information may be grounds for denial, revocation or termination of any solid waste facility permit for which I may be seeking approval or now hold."

23. Duration of Permit

This Permit shall be effective for a maximum period of five (5) years from the date of its issuance. This Permit may be renewed at that time upon proper application, in accordance

with procedures outlined in N.J.A.C. 7:26-2.7(b).

24. Right of Entry

The Permittee, by acceptance of this permit, hereby authorizes entry by Department representatives to make whatever inspections, searches, or examinations are deemed necessary by those representatives to determine the extent of compliance with any conditions of this Permit.

25. Operations Records

The Permittee shall maintain records of the facility's operations on a daily basis. Monthly summaries of the records shall be submitted by the Permittee to the Division of Solid and Hazardous Waste, Bureau of Recycling and Planning prior to the 20<sup>th</sup> day of each month following the month for which the information was recorded. The information shall include the following:

- a. The tonnages and types of solid waste received by origin from each county (including municipality) and out-of-state source;
- b. The tonnage of each waste type removed for disposal and the facility receiving the waste; and,
- c. The tonnages, types (as described in Condition No. A.1 of this Permit) and origin (by county and municipality) of all recyclable materials delivered off-site during the reporting period and the destination/market of such materials. In cases where recyclable materials are separated from mixed solid waste, and hence the origin (by county and municipality) cannot be identified at the time of receipt, the Permittee shall allocate the amount of recyclable materials proportionally to each municipality on the basis of the total amount of solid waste received for the calendar month, pursuant to N.J.A.C. 7:26-2.13(e)liii.

Where applicable, the information required to be recorded in the daily record shall be supplied by the transporter to the facility operator on the waste origin/disposal (O&D) form (or duplication of same). The O&D forms shall be kept by the Permittee for a minimum of one year and shall make them available for inspection by representatives of the Department and shall be submitted to the Department upon request. The information provided on the daily records, O&D forms and monthly summary shall denote compliance with N.J.A.C. 7:26-2.13.

26. Soil Erosion and Sediment Control

Prior to construction of each new phase, the Permittee shall submit an updated copy of certification from the Sussex County Soil Conservation District of the Soil Erosion and Sediment Control Plan for this facility. The Permittee shall comply with all requirements of the certified plan. All soil and sediment control practices shall be installed in their proper sequence and be regularly maintained.

**B. SANITARY LANDFILL**

**I. DESIGN AND CONSTRUCTION**

Phases 1A, 1B and 2A are constructed and operational. This permit authorizes the construction and operation of Phase 2B. Where applicable, design requirements for future Phase 3 construction are referenced herein.

1. Landfill's Liner System Profile(Revised May 25, 2000)

The existing Phase 2A landfill's liner system profile, in descending order, is as follows:

- A 6 inch aggregate layer.
- An 18 inch drainage layer consisting of clean sand with a minimum permeability of  $1 \times 10^{-3}$  cm/sec. This drainage layer shall contain six-inch corrugated polyethylene pipes to convey leachate to the sump.
- A non-woven geotextile.
- A geosynthetic drainage layer consisting of a 220 mil geonet having a minimum design transmissivity of 5  $\text{cm}^2/\text{sec}$ .
- A primary geomembrane liner consisting of a textured high density polyethylene (HDPE) geomembrane possessing a nominal thickness of 60 mils.
- A geosynthetic drainage layer consisting of a 220 mil geonet.
- A secondary geomembrane liner consisting of a textured HDPE geomembrane possessing a nominal thickness of 60 mils.

- A 24 inch layer of clay having a maximum permeability of  $1 \times 10^{-7}$  cm/sec.
- A compacted subgrade.

The proposed Phase 2B and Phase 3 landfill's liner system profile, in descending order, shall be as follows:

- A 6 inch aggregate layer.
- An 18 inch drainage layer consisting of clean sand with a minimum permeability of  $1 \times 10^{-3}$  cm/sec. This drainage layer shall contain six-inch corrugated polyethylene pipes to convey leachate to the sump.
- A primary leachate collection system consisting of a geocomposite drain, a layer of HDPE geonet bonded between two layers of non-woven geotextile.
- A primary geomembrane liner consisting of a textured high density polyethylene (HDPE) geomembrane possessing a nominal thickness of 60 mils.
- A primary geosynthetic clay liner (GCL) having a thickness of approximately  $\frac{1}{4}$  inch and a maximum hydraulic conductivity of  $5 \times 10^{-9}$  cm/sec. The geosynthetic clay liner will consist of a layer of sodium montmorillonite (bentonite) sandwiched between two layers of geotextile.
- A secondary leachate collection/detection layer consisting of a geocomposite drain, a layer of HDPE geonet bonded between two layers of non-woven geotextile.
- A secondary geomembrane liner consisting of a textured HDPE geomembrane possessing a nominal thickness of 60 mils.
- A secondary geosynthetic clay liner (GCL) having a thickness of approximately  $\frac{1}{4}$  inch and a maximum hydraulic conductivity of  $5 \times 10^{-9}$  cm/sec. The geosynthetic clay liner will consist of a layer of sodium montmorillonite (bentonite) sandwiched between two layers of geotextile.
- A six inch layer of compacted select fill.
- A compacted subgrade.

The minimum slopes of the liner shall be 2% on controlling slopes and 0.5% on remaining slopes.

The geosynthetic clay liner (GCL) material used in the landfill baseliner shall meet the required permeability as specified above. The GCL shall also demonstrate adequate interface and internal shear strength under static as well as seismic conditions. Prior to construction, all geosynthetic materials shall be tested using the shear box method to verify that the minimum friction angles are utilized in accordance with the slope stability analyses appended in the engineering design report referenced at Condition B.10 of this Permit. The GCL shall be maintained in a dry state up to and including the time that it is covered by the geomembrane. Random sampling of the GCL during manufacturing shall be performed to ensure proper quality control. The samples shall be tested for properties including, but not limited to, uniformity, thickness, bentonite weight, tensile properties, permeability and interface shear strength in conformance with applicable ASTM standards. The quality control engineer shall review the certified copies of the manufacturer's test results and report any nonconformance to the Permittee prior to installation of any GCL. The quality control engineer shall also verify that the GCL manufacturer is utilizing an in-line metal detection and removal system during the production of the GCL.

The geomembrane liner shall be of high quality materials and shall meet the minimum requirements as outlined in the most recent version of the National Sanitation Foundation's publication "Standard Number 54 Flexible Membrane Liners". The geomembrane shall be compounded from first quality virgin materials. No regrinded or reprocessed materials containing encapsulated scrim shall be used in the manufacturing of the geomembrane. During field seaming, a destructive seam test sample shall be prepared for every 500 feet (or as otherwise approved by the Division for that particular construction event) of field seam. All samples shall be tested for peel and sheer strength. Seams shall be stronger than the liner.

As required by Condition A.22 of this Permit, all test results shall be submitted to this Division along with a New Jersey Licensed Professional Engineer's certification that the liner has been constructed in accordance with this Permit.

2. Leachate Collection/Detection Systems and Removal (Revised May 25, 2000)

The leachate collection systems for Phases 1, 2 and 3 are shown on Sheet No. 9 of the approved Engineering Design Plans, dated February 1996, prepared by Camp, Dresser & McKee (CDM), **and updated by Cerenzio & Panaro, dated April 2000.**

The Phase 1 primary collection system, as shown on Sheets Number 18, 19, 20, 21 and 22, is above the primary geomembrane liner and consists of 6-inch perforated laterals connected to an 8-inch solid header pipe which follows the downgradient toe of slope.

The secondary collection system, as shown on the aforementioned drawings, lies between the primary and secondary geomembrane liners and consists of 6-inch laterals leading to an 8-inch solid header pipe. This secondary system serves to detect leaks and collect leachate in the event of a failure in the upper geomembrane liner.

The pipe used in both systems is corrugated polyethylene of highway grade. All 6-inch pipe is set in a gravel pack inside a geotextile shroud. Manholes and PVC cleanout risers are constructed as shown on the aforementioned drawings, to facilitate pipe inspections and cleaning.

The Phase 2 and 3 primary collection systems, as shown on Sheets Number 23, 24 and 25 of the design plans, shall consist of a high capacity 220 mil geonet above the primary geomembrane liner. Leachate will be conveyed by the geonet to the gravel bed containing a 6-inch diameter perforated HDPE pipe, which shall run the length of each cell. The primary collection pipe shall be connected to an 18-inch diameter perforated HDPE collector pipe in a gravel collection sump. This collector pipe shall be connected to an 18-inch diameter solid HDPE sideslope riser pipe. Leachate shall be pumped via a submersible pump placed horizontally within each sideslope riser where it will be discharged via a 3-inch sump force main to a 6-inch HDPE force main.

The Phase 2 and 3 secondary collection systems, as shown on the above-referenced Sheet Numbers, shall consist of a high capacity 220 mil geonet sandwiched between the primary and secondary geomembrane liners. Leachate will be conveyed to the collector pipe similar to the Phase 2 and 3 primary leachate collection system as stated above.

Leachate from Phases 1, 2 and 3 shall be conveyed to the leachate storage tank facilities consisting of existing 148,000 gallon (No. 1) and 1.1 million gallon (No.2) tanks.

Leachate shall be transported by truck to the SCMUA's Upper Wallkill Valley Water Pollution Control facility or to any other facility approved by the appropriate regulatory authorities.

3. Final Cover

The final cover for all landfill phases shall consist of the following capping system from top to bottom:

- A 6-inch layer of vegetation bearing top soil.
- A 6-inch layer of select fill to provide deeper root bedding for the vegetative cover.
- A geotextile fabric to prevent migration of fine soil particles.
- A 12-inch sand drainage layer of clean sand having a minimum permeability of  $0.5 \times 10^{-2}$  cm/sec.
- A forty (40) mil textured LLDPE geomembrane.
- A geotextile fabric to enhance gas collection.
- A 12-inch layer of clean granular soil gas venting layer directly overlying the intermediate cover layer.

4. Ground and Surface Water Monitoring

A ground water monitoring system shall be maintained in conformance with a valid New Jersey Pollutant Discharge Elimination System (NJPDES) permit issued in accordance with N.J.A.C. 7:14A-1 et. seq., or an equivalent ground water monitoring program that complies with RCRA Subtitle D 40 CFR Part 258.

Surface water discharges at the landfill shall be in accordance with the approved NJPDES Discharge to Surface Water (NJPDES/DSW) Permit.

5. On-Site Baseline

In accordance with N.J.A.C. 7:26-2A.7(a)2, the on-site baseline consisting of two vertical and horizontal control monuments shall be maintained.

6. Landfill Gas Venting and Monitoring

A landfill gas extraction/recovery system shall be constructed to control malodorous gas emissions and to prevent the migration of landfill gases off-site as contained in Sheet 5 of the approved engineering design plans revised May 1998 by Camp Dresser & McKee. The vendor accepting the gas shall hold an approved NJDEP Air Control Permit. The construction, operation and monitoring of the landfill gas extraction/recovery system shall satisfy the federal New Source Performance Standards and Emission Guidelines (NSPS/EG) set forth at 40 CFR Parts 51, 52 and 60; otherwise, an upgraded system may be required.

Quarterly methane gas monitoring shall be performed at gas monitoring wells, temporary sampling points along the perimeter of the landfill and internal locations within structures at the solid waste facility complex, as described in the Operations and Maintenance Manual for the facility. The results shall be recorded on the approved methane gas monitoring data sheet and forwarded to this Division on a quarterly basis.

7. Landfill Service Capacity

The area of the landfill's waste fill limits shall be approximately 51 acres, as shown on the site plan, Sheet number 4. Disposal of waste shall be limited to this area. The Phase 2 final elevation shall not exceed 723 feet Above Mean Sea Level (AMSL), as shown on the final grading plan, revised sheet number 5, dated May 1998.

8. Updated Design Submittal for New Phase Construction

An updated design for new phase construction shall be submitted to this Division a minimum of six months prior to anticipated start-up of construction activities.

9. Quality Assurance/Quality Control (QA/QC)

The Permittee shall submit an updated QA/QC plan at least 90 days prior to new phase construction, in accordance with N.J.A.C. 7:26-2A.5(a)7. Quality control inspectors shall be at the site during construction to ensure and verify that the design and permit requirements are properly implemented.

A quality assurance inspector approved by the Department shall be at the site during the initial construction phase of the subgrade preparation, liner system and leachate collection system. The inspector shall oversee the remainder of this work on a periodic basis as necessary. The quality assurance inspector shall conduct this work independent of the resident QA/QC team. The scheduled

frequency of inspections by the independent quality assurance inspector may be reduced or discontinued by the Department in accordance with N.J.A.C. 7:26-2A.7(a)15.

At least 30 days prior to the start of construction, the quality assurance inspector shall meet with the Department to establish reporting procedures and frequency, in accordance with the construction schedule.

The resident QA/QC team shall ensure that all Quality Assurance and Quality Control procedures are followed pursuant to Departmental guidelines as stated in the Solid Waste regulations, N.J.A.C. 7:26-1 et seq., in the construction of the landfill.

10. Referenced Engineering Plans(Revised May 25, 2000)

The construction and operation of this facility shall be in accordance with the provisions of N.J.A.C. 7:26-1 et seq., and the following design reports and engineering plans. In case of conflict, the conditions of this Permit shall supersede those of the engineering plans. These documents are listed in historical order, with the most recent submissions listed last.

- a. Engineering Design, Final Engineering Design Report, Final Environmental and Health Impact Statement prepared by Converse Consultants and Clinton Bogert Associates; specifically Sheets 1 through 31 inclusive, last revised May 1987, signed and sealed by Gary Salzman, P.E., and sheets 32 through 34 inclusive, last revised May 1987, signed and sealed by Ivan L. Bogert, P.E.
- b. Final Operations & Maintenance Manual, dated November 1989, prepared by Cerenzio & Panaro, P.C.
- c. Revised Closure/Post Closure Care and Financial Plan, dated January 1990, prepared by Clinton Bogert Associates
- d. Permit Renewal Application, dated September 1992, prepared by Cerenzio & Panaro P.C., and Updated Operations and Maintenance Manual, last revised May 1993, prepared by Cerenzio & Panaro, P.C.
- e. Pilot Study Final Report on Alternative Daily Cover Material, dated September 1994, prepared by Cerenzio & Panaro, P.C.
- f. Permit Modification Application, dated September 1995,

prepared by Cerenzio & Panaro, P.C. accompanied by the following documents:

1. Engineering Design Report, prepared by Camp Dresser & McKee, dated August 1995 and revised February 1996.
  2. Appendix A, Geotechnical Slope Stability Analysis, prepared by Camp Dresser & McKee, dated May 1995 and revised February 1996.
  3. Appendix D, Ground Water Monitoring Plan, prepared by Camp Dresser & McKee, dated August 1995.
  4. Final Report, Update to Groundwater Contour Elevations, prepared by Woodward-Clyde Associates, dated July 1994.
  5. Engineering Drawings, Sheets Number 1-30, prepared by Camp Dresser & McKee, revised February 1996, signed and sealed jointly by Henry R. Boucher, P.E. and Edmond Petrossian, P.E.
  6. Amended Wildlife Mitigation Plan, prepared by Cerenzio & Panaro, P.C., dated May 8, 1996.
  7. Revised Closure/Post-Closure Care and Financial Plan, prepared by Cerenzio & Panaro, P.C., dated October 1995.
- g. Major Modification Application for Phase 1 Vertical Extension, appended with cover letter prepared by Cerenzio & Panaro, P.C., dated January 17, 1997, accompanied by the following documents:
1. Addendum to the Final Environmental and Health Impact Statement, prepared by Cerenzio & Panaro, P.C., dated January 1997.
  2. Addendum to the Engineering Design Report, prepared by Camp Dresser & McKee, dated January 1997.
  3. Amended Engineering Design Plans Sheet No. 5, 10 and 11, revised December 1996, signed and sealed jointly by Henry R. Boucher, P.E. and Edmond Petrossian, P.E.
- h. Application for Permit Renewal and Major Modification for Vertical Extension, prepared by Cerenzio & Panaro, P.C., dated July 1998, accompanied by the following

documents:

1. Addendum to the Final Environmental and Health Impact Statement, prepared by Cerenzio & Panaro, P.C., dated June 1998.
  2. Addendum to the Engineering Design report, prepared by Camp Dresser & McKee (CDM), dated June 1998.
  3. Amended Engineering Design Plans Sheet No. 4, 5, 11, 12, 13, 14 and 15, revised May 1998, signed and sealed by Henry R. Boucher, P.E.
- i. **Application for Permit Modification, prepared by Cerenzio & Panaro, dated May 1, 2000, accompanied by the following documents:**
1. **Addendum to Engineering Design Report, dated May 2000, signed and sealed by Peter F. Cerenzio, P.E.**
  2. **Amended Engineering Design Plans Sheet No. 7, 9, 13, 14, 15, 16, 17, 23 and 24, and new drawing Sheet No. 31, signed and sealed by Peter F. Cerenzio, P.E.**

11. Mitigation of Impact on Wildlife

An approved wildlife mitigation plan is on file with the Department. The plan includes habitat enhancement in the buffer zones surrounding the active disposal area, closure and post-closure measures designed to promote future use of the closed site, and the acquisition of 61 acres of land along Route 15 for habitat enhancement. The Permittee has placed restrictions in the deed of the land parcels comprising the 61-acre wildlife mitigation area (part of Lot 38A, Block 14) so that it will remain undeveloped and provide wildlife habitat and passive recreation. The deed with the Wildlife Mitigation Area Deed Restriction is filed in Book 2021, pages 45 and 46, in the Sussex County Hall of Records.

II. OPERATIONS, MAINTENANCE AND MONITORING

1. Final (Updated) Operations and Maintenance Manual

The Final Operations and Maintenance Manual shall be updated and shall contain, in full, all relevant procedures for the operations and maintenance of Phase 2. References to other manuals shall not be used in place of a full listing of

Operation and Maintenance Manual procedures.

2. Inspection, Operation and Maintenance Schedules

The following shall be performed on a daily basis:

- Record leachate flows in the primary and secondary collection systems
- Inspect leachate pumping systems
- Inspect leachate storage tanks
- Inspect methane gas recovery system
- Record precipitation
- Police buffer areas, site entrance and adjacent roadways for litter
- Inspect storm water sedimentation and detention basins
- Inspect truck scale for debris, ice, damage
- Record solid waste flow
- Record running hours for equipment

The following shall be performed on a weekly basis:

- Inspect all environmental control systems
- Inspect primary and secondary collection system manholes and cleanout risers
- Inspect ground monitoring water wells for exterior damage
- Inspect the cover and drainage swales
- Inspect pump station equipment and force main
- Check site lighting

The following shall be performed after storm events:

- Inspect all environmental control systems
- Inspect detention basins and surface runoff structures
- Inspect leachate collection pipes, manholes and cleanout risers
- Inspect the cover and drainage swales
- Inspect pump station and leachate storage tanks

The following shall be performed on a quarterly basis:

- Conduct methane gas survey around perimeter of the buffer zone of active landfill areas
- Inspect gas extraction system well heads and condensate traps
- Inspect portable fire extinguishers

The following shall be performed on an annual basis:

- Perform topographic survey of landfill
- Inspect leachate storage tanks for leaks
- Conduct methane gas survey around perimeter of the buffer zone of the sanitary landfill
- Inspect or test leachate mains to ensure free flow of leachate
- Inspect emergency equipment

The following shall be performed biennially:

- Survey the baseline vertical and horizontal control monuments
- Inspect overall methane gas pumping system

In addition to the above, inspection, operation and maintenance of other aspects of the facility shall be performed, as necessary, in order to meet the terms of this Permit and all applicable regulations.

The Permittee shall record the results of the inspections in a bound log book which shall be maintained at the sanitary landfill office and be available, at all times, for inspection by the Department. These records shall include the date and time of the inspection, the name of the inspector, a notation of observations and recommendations, and the date and nature of any repairs or other remedial action.

### 3. Waste Disposal Methods

The working face shall be confined to the smallest practical area, as is consistent with the proper operation of trucks and equipment, in order that the area of waste material exposed during the operating day is minimized. The maximum working face width shall not exceed 150 feet. At no time shall the area of exposed waste be greater than 15,000 square feet. The lift height of a daily cell, including cover soil, shall not exceed 12 feet. Waste shall be compacted in 2-foot layers. The maximum working face slope shall not exceed 3:1 (horizontal to vertical).

Bulky waste and any sharp or penetrating objects shall not be disposed of in the first four feet of the initial lift in each landfill cell.

### 4. Cover Requirements

Daily and intermediate cover shall be of the types that can be workable under all weather conditions.

A sufficient quantity of cover material shall be available at all times to ensure proper operation of the landfill. At the end of each day, at least 6 inches of soil, as daily cover, shall be placed on areas of the solid waste workface that will be exposed for less than 24 hours. Alternatively, the Permittee may use a geomembrane as a daily cover material. As per the report entitled "Alternative Daily Cover Material (ADCM) Pilot Study" of the referenced documents and approved by the Division on October 27, 1994, the Permittee may use a reinforced nylon or polyethylene geomembrane of at least sixteen (16) mil. The geomembrane shall be placed on all exposed waste and secured with weighted materials such as tires or sandbags. At the close of each week, the geomembrane panels shall be removed. In all cases, a twelve- inch depth of intermediate cover shall be applied to all surfaces exposed for a period exceeding 24 hours.

The landfill is to be constructed and operated in phases. Final cover, as defined in section B.I.3 of this Permit, shall be applied to each phase within six months of the date that waste disposal operations cease in that phase. Final elevations of each phase, including cover material, shall not exceed those shown on sheet number 5 of the approved engineering design (revised May 1998).

5. Surface Water Control

The grade and thickness of cover material on all surfaces of the facility shall be maintained regularly so as to prevent the occurrence of ponding of water anywhere on the active landfill area except in designated stormwater control ponds. All provisions of the drainage plans as indicated in the approved engineering design shall be implemented. The channels and drainage structures shall be regularly maintained. Any drainage from the active landfill area shall be such as not to cause siltation.

6. Closure and Post-Closure Plan

The Permittee shall comply with the requirements of N.J.A.C. 7:26-2A.9 for the closure and post-closure care of this facility. Failure to comply with the requirements of any closure plan approval issued from the Department may result in the revocation of this Permit.

7. Summary of Required Submittals

The following information shall be submitted to the Bureau of Landfill and Recycling Management, Division of Solid and Hazardous Waste, of this Department:

<u>Document</u>	<u>Due Date</u>
a) Recordings of leachate head levels	quarterly
b) Perimeter gas monitoring results	quarterly
c) Leachate flow monitoring results	quarterly
d) Daily precipitation summary	quarterly
e) Topographic survey and report	annually
f) Closure and Financial Plan Two Year Update	biennially

Failure to comply with any or all limitations heretofore mentioned will result in the Department seeking relief under N.J.S.A. 13:1E-1 et seq., the Solid Waste Management Act. Specifically, each day of failure to so comply shall constitute a separate violation on the basis of which a penalty shall be assessed and may result in loss of operating authority pursuant to N.J.S.A. 13:1E-12. This Permit is contingent upon compliance with all local, state, federal laws and regulations.

The issuance of this Permit and the conditions of operation identified herein shall not be interpreted as relieving the Permittee of its responsibility to secure and maintain all other applicable federal, state and local permits or similar forms of authorization relating to the construction and operation of this facility.

MS/ms